

Bellwork: 3/4/13

Find the polynomial function in standard form from the given roots.

$$x = -3, \frac{1}{2}, \frac{2}{3}, 0$$

$$x(x+3)(2x-1)(3x-2)$$

$$(x^2+3x)(2x-1)(3x-2)$$

$$(x^2+3x)(6x^2-7x+2)$$

$$~~6x^4 - 7x^3 + 2x^2 + 18x^3 - 21x^2 + 6x~~$$

$$y = 6x^4 + 11x^3 - 19x^2 + 6x$$

ALGEBRA 2
5.5 Graphing Polynomials

NAME _____
DATE _____ PD _____

I. Find the zeros of each of the following functions by factoring. Then find the y-intercept and sketch the graph.

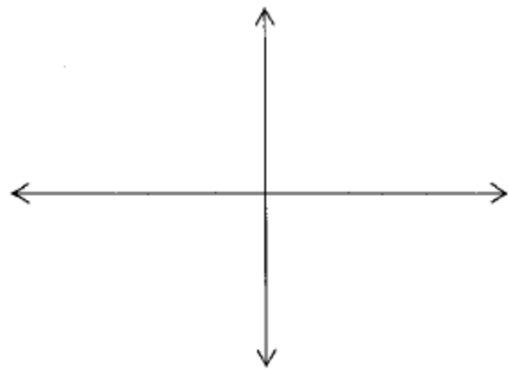
1) $f(x) = x^3 - 25x$

Zeros: _____

Graph _____ left

_____ right

y-intercept: _____



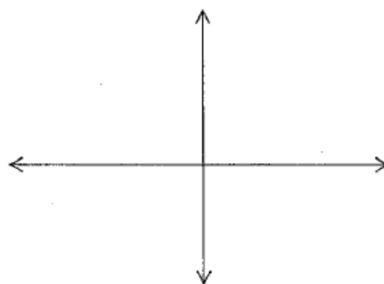
2) $f(x) = x^3 - 4x^2 + 4x$

Zeros: _____

Graph _____ left

_____ right

y-intercept: _____



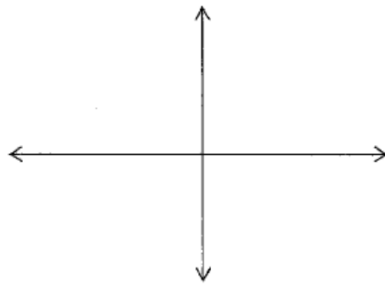
3) $f(x) = x^4 - x^3 - 20x^2$

Zeros: _____

Graph _____ left

_____ right

y-intercept: _____



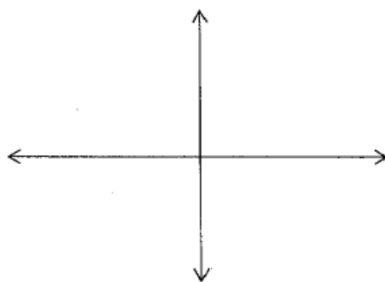
4) $f(x) = x^5 + x^3 - 6x$

Zeros: _____

Graph _____ left

_____ right

y-intercept: _____



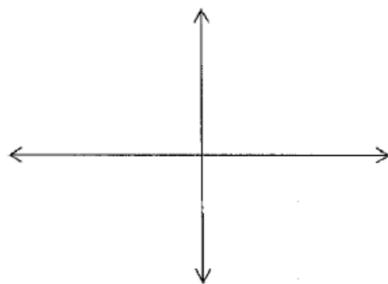
5) $f(x) = x^3 - 7x^2 + 10x$

Zeros: _____

Graph _____ left

_____ right

y-intercept: _____



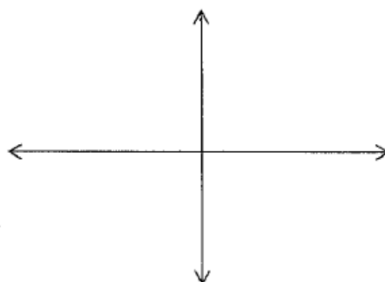
6) $f(x) = -x^3 + 4x$

Zeros: _____

Graph _____ left

_____ right

y-intercept: _____



Graph the following:

7) $f(x) = 2x^3 - 5x^2 - 28x + 15$

Maximum # of roots: _____

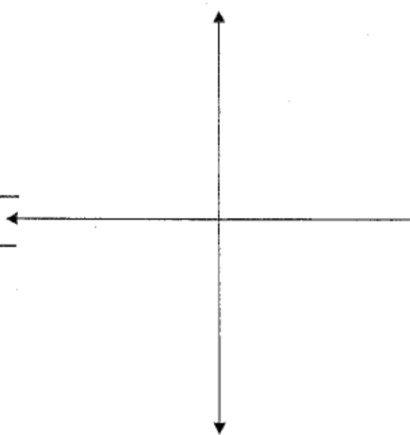
Possible rational roots: _____

Factored form: _____

Actual roots: _____

y-intercept = _____

EB: _____ left, _____ right.



8) $f(x) = 2x^4 + 5x^3 - 5x - 2$

Maximum # of roots: _____

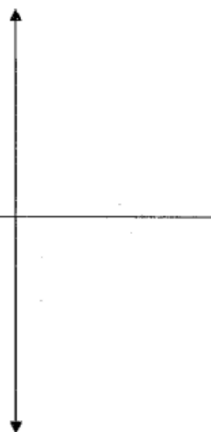
Possible rational roots: _____

Factored form: _____

Actual roots: _____

y-intercept = _____

EB: _____ left, _____ right.



9) $f(x) = x^4 + x^3 - 13x^2 - 25x - 12$

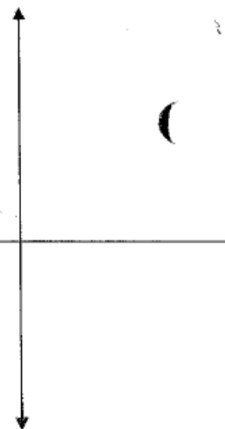
Possible rational roots: _____

Factored form: _____

Actual roots: _____

y-intercept = _____

EB: _____ left, _____ right.



10) $f(x) = 2x^3 + 3x^2 - 8x + 3$

Maximum # of roots: _____

Possible rational roots: _____

Factored form: _____

Actual roots: _____

y-intercept = _____

EB: _____ left, _____ right.

